in their identification. I hope that the magnitudes of the stars will be found to be fairly correct. Unfavourable weather, and the presence of the Moon, have at times made observation difficult.

Knowles Lodge, Cuckfield:
1892 *April* 6.

Anderson's New Star in Auriga. By S. W. Burnham.

My observations of the new star which has recently appeared near 26 *Aurigæ* are confined to micrometrical measures of its position with reference to the faint stars in the field with it. The 36-inch refractor has been used, and I have measured all the stars within a radius of 2′ which could be seen with that aperture. Some moderately bright stars with greater distances have been measured, but without attempting to include all the outlying stars which could be seen.

The following are the measures:—

A and B.

1892·115	81°·6	32″·98	5·7	. . .	14·5	4·30
·118	84·1	33·21		. . .	15·5	6·30
·151	84·7	33·41		. . .	14·5	6·35
1892·14	83·5	33·20			14·8	

A and C.

1892·151	152°·0	49″·54	. . .	15	6·15
·153	153·7	48·57	. . .	15·5	9·10
1892·15	152·8	49·05		15·2	

A and D.

1892·151	170°·8	66″·07	. . .	15	6·10
·153	170·0	66·64	. . .	15	9·15
1892·15	170·4	66·35		15	

A and E.

1892·115	323°·3	74″·44	. . .	11·5	4·35
·118	323·9	74·30	. . .	12	6·35
·151	323·6	74·22	. . .	11·5	6·45
1892·14	323·6	74·24		11·7	

A and F.

1892·112	32°·5	85″·24	. . .	10	5·15
·115	32·0	84·70	. . .	10·5	4·35
·118	32·4	85·22	. . .	11	6·35
·151	32·6	85·04	. . .	10	6·35
1892·12	32·4	85·05		10·4	

A and G.

1892·115	138°·5	97″·67	. . .	11·4	4·50
·118	138·8	97·54	. . .	12	6·35
·151	138·4	97·85	. . .	11	6·20
1892·13	138·4	97·69		11·5	

A and H.

1892·115	50°·0	118″·77	. . .	11·5	4·40
·118	50·0	118·23	. . .	13	6·40
·151	49 8	118·74	. . .	11	6·35
1892·13	49·9	118·44		11·8	

A and I.

1892·151	161°·3	154″·76	. . .	11·7	6·30
·153	161·0	154·26	. . .	12	9·00
1892·15	161·1	154·51		11·8	

A and J.

1892·115	21°·8	159′·98	. . .	12·5	4·55
·118	21·9	159·46	. . .	13·5	6·40
·151	22·1	158·90	. . .	12	7·30
1892·13	21·9	159·45		12·7	

A and K.

1892·170	231°·7	170″·40	. . .	13	9·15
·186	231·5	170·87	. . .	13	7·40
1892·18	231·6	170·63		13	

A and L.

1892·115	126°·6	172″·21	. . .	10·5	4·55
·118	126·9	171·14	. . .	10·5	6·45
·151	127·0	171·60	. . .	10·8	6·25
1892·13	126·8	171·65		10·6	

A and M.

1892·118	18°·6	183″·95	. . .		6·45
·151	18·6	183·56	. . .		7·35
1892·13	18·6	183·75			

A and N.

1892·112	115°·9	213″·14	. . .	11	7·40
·115	115·7	212·30	. . .	10·5	4·50
·118	115·8	213·05	. . .	10·5	6·45
·151	115·9	212·68	. . .	10·8	6·30
1892·12	115·8	212·79	. . .	10·7	

E and e.

1892·118	24°·0	13″·44	12	. . .	14	6·50
·151	23·7	13·52	11·5	. . .	12·5	6·45
·153	24·8	13·49	11·8	. . .	13	9·15
1892·14	24·2	13·48	11·8		13·2	

M and m.

1892·115	55°·6	3″·22	13	. . .	13·5	5·10
·118	50·7	3·76	14	. . .	14·5	6·50
·151	51·9	4·32	12·5	. . .	12·5	7·40
·153	56·2	4·17	13·5	. . .	13·8	9·20
1892·13	53·6	3·87	13·2		13·8	

There is no star in Argelander in the place of the new star. The nearest star is D.M. (30) 924, given as 9·5 *m.* This is too distant for the field of the lowest micrometer eye-piece of the large instrument, but I have measured these stars with the 12-inch as follows:—

New Star and D.M. (30°) 924.

	°	″	
1892·112	354·5	455·61	7·25
·148	354·4	454·68	6·10
·167	354·4	455·05	8·30
·178	354·5	454·83	6·50
1892·15	354·45	455·04	

The three stars which are nearest the primary, B, C, and D, are faint objects, and none too easy to measure with the large telescope. Most of the more distant stars would be easily seen with a much smaller aperture. Two of these, E and L, have very faint companions, and the latter in particular is troublesome to measure. The bright companion, F, is undoubtedly identical with the 9·5 *m* star referred to by Deichmüller (*A.N.*3070) as having been seen by Krueger in 1858, and $2^{s}\cdot5$ following, and 0′·8 north of the present place of the new star.

During the measures the new star has appeared at all times down to the present a little fainter than 26 *Aurigæ*, and, therefore not brighter than 5·5 *m*. There has been but little change in the magnitude thus far. It may be mentioned in this connection that on November 28 I discovered with the large telescope the duplicity of 26 *Aurigæ* (distance 0″·15), and measured the new pair and the old distant companions on several nights between that date and January 22 (see *Astr. Journ.*, No. 256).

I have compared the new star in declination with D.M. (30°) 913, which precedes the former about 111^{s}. By three observations the new star is 9″·28 south. In the course of these measures of the various companion stars I noticed that the 8 *m* star, D.M. (30°) 942, which is in the finder following the new star, was a moderately close equal pair, not hitherto known as a double star. This star is *Lalande* 10423. The following measures were made with the 36-inch :—

	°	″	
1892·118	217·8	0·83	8·5 . . . 8·5
·151	217·9	0·82	8·5 . . . 8·5
·153	218·0	0·87	8·5 . . . 8·5
1892·13	217·9	0·84	8·5 . . . 8·5

This, of course, would be an easy pair, and will probably have been noticed by other observers.

The accompanying diagram shows the relative positions of the various stars which have been measured from the new star.

Mount Hamilton :
1892 *March* 10.

Note.

Since the foregoing was written a very decided change has taken place in the light of this star. My last measure given above was made on March 9, and during the time covered by these observations there had been but little change in the magnitude. The difference from night to night was hardly perceptible, and the diminution did not appear to amount to more than half a magnitude. On March 13 a change was very apparent, and it was then but little, if any, brighter than D.M. (30°) 942, the new double star referred to in the foregoing. Argelander's magnitude of this is 8·0. On the 15th a comparison with D.M. (30°) 913, 924, and 942 gave 8·5 as the magnitude of the new star; on the 16th it was apparently 8·6; on the 20th it was estimated 9·3; and on the 21st, my last examination, it was 9·4. At the present rate of decrease it will soon be comparable with some of the fainter stars I have measured. These stars have a sufficient range of magnitude to be useful for comparison as long as the new star is within the reach of any telescope.

The Double Star, Σ3123. By S. W. Burnham.

There is, perhaps, not another double star in Struve's great work, *Mensuræ Micrometricæ*, which has been measured so rarely as Σ3123. It has been known for more than sixty years, and yet at the most there are but five sets of measures, and two of these are within the last ten years. The scarcity of measures is undoubtedly due to the fact that it is at all times a difficult pair, and beyond the reach of many telescopes used in micrometrical work. There are some observations showing that this star, at various times, was apparently single.

The following are both the positive and the negative results arranged in chronological order:—

1832·20	289°·7	0″·3	W. Struve 3*n*
1840·43	265° ±	obl.	O. Struve 2*n*
1841·41	268°·7	0″·44	O. Struve 1*n*
1841·56	275°·3	0″·3 ±	Madler 1*n*
1842·78	291°·3	0″·2 ±	Madler 1*n*
1851·44	Elong. in 231°?		O. Struve 1*n*
1858·44	Single		O. Struve 1*n*
1861·26	Single		O. Struve 1*n*
1862·39	Single		O. Struve 1*n*
1862·95	Single		Dembowski 1*n*
1868·56	Single		O. Struve 1*n*
1881·32	Round		Bigourdan 1*n*
1881·38	221°·9	0″·32	Burnham 2*n*
1892·14	200°·0	0″·37	Burnham 3*n*